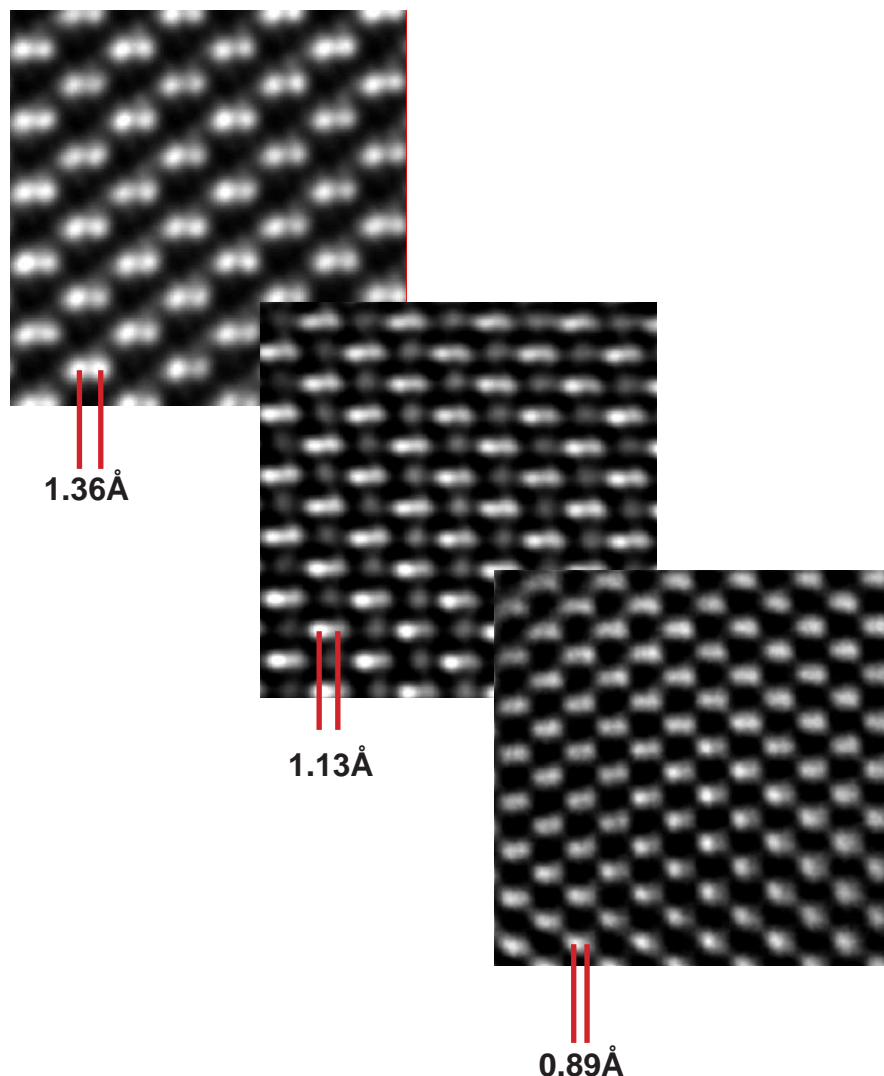
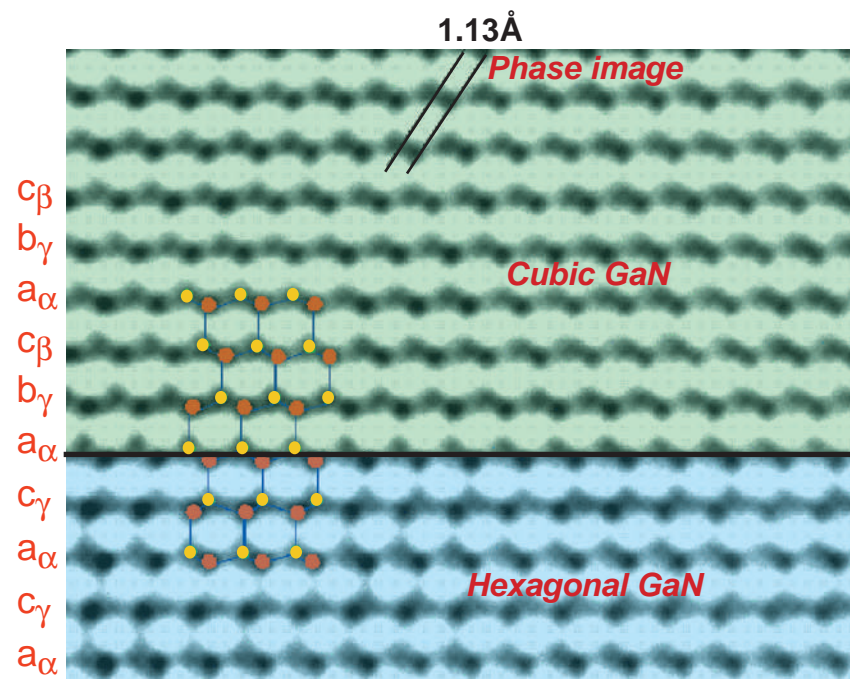


Electron Microscopy Achieves Sub-Ångstrom Level

NCEM Team Aids in Design of New User Microscope for NCEM



Semiconductors Si, GaN, and diamond (top to bottom) imaged along the [110] direction by the new One-Å microscope at NCEM. Pairs of atoms as close as 0.89 Å appear clearly as “dumbbells” in the images.



The interface between the cubic (top) and hexagonal (bottom) structures in a GaN epitaxial film is resolved by the OÅM in unprecedented detail. The 1.13 Å spacings and the interface location and structure are resolved clearly. Gallium atoms appear as darker dots (red in superimposed model) and nitrogen as lighter dots (yellow).

Ulrich Dahmen, Michael O'Keefe
Christian Kisielowski
National Center for Electron Microscopy
Materials Sciences Division
Berkeley Lab
99-9